

“The telescope was one of Dollond’s master-pieces; it had a triple object-glass of two inches clear aperture, and bore well powers of 40 and upwards; but for terrestrial objects I preferred a power of 25.

“Another fact of the same kind, but not admitting of such definite measurement, was that at Mandwi station. I had a referring mark on Bhatras, distant about seven miles, both being peaks at a mean height of about 4000 feet above the sea, and about 2000 feet above the intervening ground. The sun’s light was transmitted through a hole three-tenths of an inch in diameter, and in strong daylight (with the telescope as well as with the naked eye) it had much the same appearance as *Sirius* by night. It had not the round planetary disc observed in the other case. The wires in the focus of the telescope subtended rather more than 3”, and at their intersection they subtended between 3”·5 and 4”; but I found that I could not get them entirely to hide the referring mark.*

“In each of these cases the apparent enlargement of the object may possibly have been chiefly owing to the light reflected from the particles of air very near the path of the ray. They are quite distinct from the enormous enlargements to be seen when the rays pass near the surface of the earth through an atmosphere of varying density, for in such cases the objects are always unsteady and flaring.

“I may mention also in reference to the visibility of small opaque objects on a bright ground, that on one occasion, from a station twenty-five miles or more to the eastward, I observed the Pangaon station at sunset, when the station-pole, being *projected on the sun’s disc*, was a remarkably good object. For several days I had found it invisible otherwise. The pole was about twenty inches thick and about fifteen feet high. It did not occur to me that the breadth was sensibly diminished.”

On the Manufacture of Optical Glass in England.

By Mr. Simms.

“The difficulty that has hitherto attended the construction of achromatic telescopes of large apertures in this country has arisen, as is well known, from the faulty state of our flint-glass manufacture, and notwithstanding the efforts that have from time to time been made with the view to its improvement, it has till lately continued so defective in all the qualities requisite for forming a good telescope, that I recollect to have succeeded in only two instances in my attempts to make with it unexceptionable object-glasses of only three and a-half inches aperture.

“Our supplies of flint-glass have, therefore, been drawn from the Continent, and although discs of great purity have been obtained

* 0·3 inch subtends 1” at the distance of a mile, nearly.

of diameters varying from four to nine inches, yet the first cost of the disc from the foreign manufacturer, and the subsequent risk of its not turning out well after the expenditure of great labour upon it, required necessarily so great a price to be set upon the finished article (to make it at all remunerative), that opticians, on the one hand, have been deterred from engaging in such costly and hazardous undertakings (which generally ended in loss), and astronomers, on the other, however ardent admirers of the science, have been prevented from engaging successfully in the pursuit.

“It will be gratifying to the members of the Society, and to the lovers of astronomy generally in this country, to learn that such a state of things no longer continues. After much labour, and no doubt at considerable cost, the firm of Chance and Co. of Birmingham, with the assistance of a foreign artist, have succeeded in manufacturing flint-glass for optical purposes by no means inferior, so far as my trials enable me to judge, to the very best that was formerly prepared by the elder Guinand. Besides several of smaller dimensions, I have made of this material, together with the crown-glass of the same firm, which has long been of excellent quality, one object-glass of six inches diameter, with which perhaps I have had as little trouble as the nature of such a work will admit of. I am about to make trial of a glass of much larger aperture than the one above mentioned, and the result of this experiment, of the successful issue of which I have no doubt, shall in due time be communicated to the Society.”

Professor Potter, of University College, London, wishes to call attention to a communication published by him in Brewster's Journal, New Series, vol. iv. p. 18, from which it appears that the Professor used the *chilling* process in casting specula on an old steel mirror, and with perfect success, so far back as 1831.

Captain Shortrede presented a “perpetual calendar, giving the days of the week for all time.” This consists of three small concentric circles of card, from which, when set according to the instructions, the day of the week corresponding to any yearly and monthly date whatever may be taken by inspection.

Sir Andrew Lang, Governor of St. Croix, mentions the occurrence of an aurora borealis at St. Croix, $17^{\circ} 44' 32''$ north latitude, and $64^{\circ} 41'$ west longitude. “The red lurid glare ascended high above the hills” and led several persons to believe that a tremendous fire had occurred on the islands of St. Thomas and St. John's, which are forty miles distant. This aurora was seen on the 17th of November, 1848, and it appears that an aurora of extraordinary brilliancy was seen on the same night over the north of the British islands, and also at Montreal. Sir Andrew Lang has been a resident in the West Indies for fifty-four years, and paid attention to meteorology for more than thirty years, but this is the first aurora which he has witnessed.

Mr. Lowe remarks with respect to Dr. Forster's communication (see *Monthly Notice* for January last, p. 37), that "from the 1st January, 1817, to the 31st December, 1848, the new moon has fallen 55 times on a Saturday, and that, consequently, the number of rainy days which ensued should be, according to Dr. Forster, about 1100."* On consulting the register of his friend Mr. Tatem, of Reading, Mr. Lowe finds "that rain occurred on 605 days. The number of fair days exceeded the number of rainy days 36 times out of the 55, and once no rain fell for 20 days."

In 7 cases rain did not fall on more than 5 days

29	"	"	10	"
10	"	"	19	"

In 8 cases observed at Greenwich, Mr. Lowe finds that once there were 4 days of rain, once 5 days, thrice 9 days, once 11 days, once 12 days, and once 17 days of rain.*

M. Fasel sent an elaborate drawing of the parhelia observed at Stone, March 29, 1848, and a meteorological register for 1848.

Professor Schumacher has had the kindness to forward the following elements of Goujon's comet, calculated by Professor Argelander:—

Perihelion Passage, 1849, May 26.5572, Berlin Mean Time.

		°	'	"	
π	.....	235	45	20	
δ	.....	202	33	15	
i	.....	67	9	34	
Log q	.....	0.06413	Motion direct.		

* Mr. Lowe has said that the number of rainy days, according to Dr. Forster, should have been 1500, but Dr. Forster's statement relates to the next 20 days after the new moon; the number of rainy days is $20 \times 55 = 1100$. The only way in which this matter touches astronomy (and, therefore, concerns the Society), is, that if an empirical rule connecting the weather with the *phases* of the moon, and with *certain* days of the week, were *established*, it might be the business of astronomers to give an astronomical form to the cycle, which again might lead to a physical explanation. Until the *fact* is agreed upon, the question is purely *meteorological*, and, as such, does not belong to us.

ERRATA.

p. 95, for Stowe, read Stone.

97, March 1st, Comp^d—Obs^d R.A., for $-1^{\text{s}}.45$, read $-1^{\text{s}}.37$.

103, Emerision of Jupiter's 4th Satellite, for 11^{h} , read 14^{h} .

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